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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/497,421 02/07/00 CHAI

T 71711-2-8

EXAMINER

MMC2/0119

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ART UNIT

PAPER NUMBER

2815

DATE MAILED:

01/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/497,421

Applicant(s)

CHAI ET AL.

Examiner

Lourdes C. Cruz

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☒ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to an Application filed February 7, 2000.

Drawings

Figures 6-6B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numbers 55,63 and 88 are not shown. There are multiple errors and inconsistencies of this nature in the drawings. Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 and 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the phrase "high stress regions". As used in the claim this phrase implies a comparison between regions without previously quantitatively defining the term high or the limits implied by this term stress-wise. This makes the claim indefinite.

Claim 1 recites the limitation "the corresponding", **claim 2** recites the limitations "the high", "the corners" and "the risk". **Claim 6** recites the limitation "said respective", **claim 9** recites "said connections", "said respective" and "the vicinity". **Claim 13** recites

the limitations "the side chip" and "the lower surface". The above quoted phrases lack antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, and 6-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Chun (U.S. Patent No. 5352852).

Chun discloses a lead frame with sidebars 15 defining an aperture (See Fig. 3A) and a chip support zone, said zone being smaller than the chip and each side bar having an upper surface for engaging the chip with a ground ring 13 and leads 19 having a proximal and a distal end.

Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Djennas et al. (U.S. Patent No. 5233222).

Djennas discloses sidebars 36, an aperture 44 being generally circular (See Fig. 6) and having a curved edge with a contact surface for securing the chip thereto.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chun in view of Djennas et al.

Djennas discloses a lead frame as discussed above. Although Chun does not disclose curvilinear sidebars, Djennas does (See Figs. 6 and 8). It would have been obvious at the time the invention was made to combine the teachings of Djennas to the teachings of Chun to obtain a circular opening for the purpose of reducing the probability of voiding as disclosed by Djennas.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chun in view of Yoo et al. et al. (U.S. Patent No. 5661338).

Chun teaches all the limitations of claim 1 as discussed above. Although Chun fails to disclose members dividing said aperture, Yoo teaches said members to reduce thermal strain. It would have been obvious to combine the teachings of Yoo to the teachings of Chun for the purpose of reducing thermal strain while providing a plate capable of minimizing thermal strain as taught by Yoo.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kitano, Mori, Sawada, Yasuhara, Yamaguchi, Kajihara, Terada, Okumura, and Ishikawa disclose lead frames with window openings to reduce the popcorn effect due to thermal strain.

Art Unit: 2815

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lourdes C. Cruz whose telephone number is 707-306-5691. The examiner can normally be reached on M-F 8:00- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Lourdes Cruz
January 13, 2001

Lourdes C. Cruz
Examiner
Art Unit 2815



EDDIE C. LEE
PRIMARY EXAMINER